

Application No. 09/069,847
Attorney's Docket No. 010091-035

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(a) obtaining an oligonucleotide that is labeled with a fluorescent acceptor and donor pair; wherein (1) at least one of said acceptor and donor are attached to said oligonucleotide by a linker that inhibits quenching upon binding of said oligonucleotide to another nucleic acid sequence, and [which] (2) said oligonucleotide is specifically recognized by an enzyme that [facilitates] effects nucleic acid ligation or cleavage [at a] of a specific nucleic sequence;

(b) contacting said oligonucleotide with said enzyme that [facilitates] effects nucleic acid ligation or cleavage of said oligonucleotide; and

(c) continuously detecting said ligation or cleavage reaction by [detecting a change in] monitoring fluorescence intensity during said ligation or cleavage reaction.

Kindly add the following additional claims:

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--90. The method of Claim 67, wherein said donor is attached to said oligonucleotide by a linker.

91. The method of Claim 67, wherein said acceptor is attached to said oligonucleotide by a linker.

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92. A method for continuously detecting a specific nucleic acid sequence that is produced during a process that results in amplification of a specific DNA or RNA sequence, said process comprising:

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(a) obtaining an oligonucleotide that is labeled with a fluorescent acceptor and donor pair, wherein (1) at least one of said acceptor and donor are attached to said oligonucleotide by a linker that inhibits quenching or fluorescence upon binding of said oligonucleotide to another nucleic acid sequence, and (2) said oligonucleotide is specifically recognized by an enzyme that effects nucleic acid ligation or cleavage of a specific nucleic acid sequence;

(b) contacting said oligonucleotide with said enzyme that effects nucleic acid ligation or cleavage during a process that results in amplification of said specific nucleic acid sequence; and

(c) continuously detecting said ligation or cleavage reaction, and thereby detecting said specific nucleic acid sequence produced during said amplification reaction, by monitoring fluorescence intensity as said amplification reaction proceeds.

93. The method of Claim 92, wherein said amplification reaction is a catalytic hybridization reaction.

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94. The method of Claim 92, wherein said amplification reaction is a polymerase chain reaction.

95. The method of Claim 92, wherein said amplification reaction is a ligase chain reaction.

96. The method of Claim 92, wherein said change in fluorescence intensity is measured by time-resolved fluorescence.

97. The method of Claim 92, wherein said change in fluorescence intensity is measured by energy transfer.

98. The method of Claim 92, wherein said change in fluorescence intensity is measured by single photon counting.

99. The method of Claim 92, wherein said change in fluorescence is measured by an analog method.

100. The method of Claim 92, wherein said change in fluorescence is measured by fluorescent lifetime.